



Air Pollution in Loreto Balbriggan

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Introduction

Description of the issue and importance.
Community relevance, local background and locality.

Our school is located in Balbriggan which has a population of 21,722. It is a large coastal town in Dublin. There are many facilities that affect the air pollution in Balbriggan such as the train station, buses, etc. There is a supervalu adjacent to our school, supervalu trucks arrive and pull out from the car park right next to our school gates. There is a train station behind our school and a bus station across from supervalu that also affect the amount of pollution in the air. The air pollution around our school is a big problem and affects the 1278 students attending Loreto Balbriggan breathing in this air 5 days a week 7 hours a day.

Research Question(s)

Our research questions were "How polluted is the air around our school?" and "How does the air pollution affect those who breathe it in?"

Research Methods

Our school is located near different places which positively or negatively affect the air quality in our school. The fact that our school is in an urban area, is near a train station and is in a large town negatively affect our air quality. The lack of car movement and the fact that our school is in a coastal area affect our school positively. The fact that our school is coastal improves our air quality because the winds move and disperse air pollution in our school.

We measured 2 areas exposed to traffic and 1 sheltered area. We left NO₂ diffusion tubes in these areas and sent them to the Globe Program to receive results on our air quality which are to the right. To examine further into this topic we surveyed 44 teachers in our school to see what cars they drove which cause pollution. We analysed the results. The questions and results to this survey are to the right.



Field Photographs and Map of Study Site

Results

Our results from our NO₂ diffusion tubes are:

Sheltered area 1: 17.87

Car park 1: 18.31

Near traffic 1: 18.44

All of our results are on the "good" description, when you compare it to other schools in areas similar it is equal to if not slightly worse. As shown in our locality it is to be expected with the amount of traffic, train, bus or car, we come into contact with.

We took upon ourselves to create a survey of some of our teachers and find out the different cars the school had in the car park. In total we surveyed 44 teachers and our results are as followed:

Do you drive to school?

Yes: 41

No: 3

What year is your car?

00-10: 22

11-19: 22

What is your car's fuel type?

Petrol: 16

Diesel: 26

Hybrid: 2

Electric: 0

If you have a Hybrid/Electric car how long have you had it?

1-12 months: 1

12 months - 2 years: 1

Discussion

The results of our air quality were very good because the pollution in our school ranged from 15-20 in sheltered areas and areas exposed to traffic. Compared to other urban areas with similar populations to Balbriggan we have similar to better air quality. Cars become stationary once they have made 2 movements within the study site. For future change we would want these cars to be electric rather than diesel or petrol to cause less pollution. We believe that a trend of electric cars or hybrids will form due to teachers having bought them recently. Possible sources of error would include the midterm break as there were no teachers driving into school nor were there any buses nearby. Animals and people could have touched the tubes while they were placed around our study site. Our results were pleasing however of course we wish to continue improving our air quality for the future.

Conclusions

Overall, we are really happy with the results that came back from our NO₂ diffusion tubes. Compared to some other parts in Ireland the air around our school doesn't have a lot of pollution in it. We hope to continue our research further and promote air pollution awareness in Balbriggan and encourage people to walk or take the bus to school rather than everyone coming to school by cars. We also hope to see the numbers of people driving electric cars rise as they are much better suited for the environment rather than diesel cars.

Bibliography

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